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Fitch, Even, Tabin & Flannery, LLP
120 South LaSalle Street
Suite 1600
Chicago, IL 60603-3406

EXAMINER

DUBOIS, PHILIP A

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEAN-LUC RABAULT and FRANCOIS BELOUIN

Appeal 2015-002384
Application 12/440,896
Technology Center 1700

Before ADRIENE LEPIANE HANLON, ELIZABETH M. ROESEL, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1, 3, and 5–25. We have jurisdiction under 35 U.S.C. § 6(b).²

We REVERSE.

¹ Mondelēz International is identified as the real party in interest. App. Br. 3.

² In our opinion below, we reference the Specification filed March 11, 2009 (Spec.), the Non-Final Office Action mailed October 17, 2013 (Non-Final Action), the Appeal Brief filed June 6, 2014 (App. Br.), the Examiner's Answer mailed October 6, 2014 (Ans.), and the Reply Brief filed December 8, 2014 (Reply Br.).

STATEMENT OF THE CASE

Claimed Invention

The claimed subject matter relates to a filling for a food product, such as dry cookies, wafers, toasts, cereal bars, soft cakes, doughnuts, or cream puff pastries. App. Br. 23 (claim 1); Spec. 7. One goal is to provide a filling that reduces calories originating from fat or sugars and increases the caloric part coming from complex carbohydrates. Spec. 2.

Claim 1 is the sole independent claim and is reproduced below from Appellants' Claims Appendix:

1. A filling comprising of a continuous aqueous phase, said filling having a water activity (Aw) of 0.5 to 0.93, and a fat content but not more than 25% fat by weight in relation to a total weight of the filling, and containing at least one non-gelatinized, non-modified native starch or overdry starch from 2 to 40% by weight in relation to the total weight of the filling, said non-gelatinized, non-modified starch is heated below its gelatinization temperature prior to consumption and said non-gelatinized, non-modified starch is preserved in its non-gelatinized, non-modified native state as the non-gelatinized native starch or overdry starch in the filling so that said starch includes non-gelatinized, non-modified starch particles and at least 90% of the non-gelatinized, non-modified starch particles have a particle-size distribution ranging between 2 μm and 100 μm and at least 5% of the non-gelatinized, non-modified particles have a size greater than or equal to 10 μm .

App. Br. 23 (emphasis added).

References

Wurzburg et al. ("Wurzburg")	US 3,265,510	Aug. 9, 1966
Guzaski	US 3,861,291	Jan. 21, 1975
Banks et al. ("Banks")	US 4,873,098	Oct. 10, 1989

Dreese et al.
("Dreese")

US 5,376,399

Dec. 27, 1994

Rejections

The Examiner maintains the following rejections:

1. Claims 1–3, 5–12, and 24–25 under 35 U.S.C. § 103(a) as unpatentable over Dreese in view of Wurzburg. Non-Final Action 3–4.
2. Claims 13–17 and 23 under 35 U.S.C. § 103(a) as unpatentable over Dreese and Wurzburg in view of Guzaski. *Id.* at 4–5.
3. Claims 18–22 under 35 U.S.C. § 103(a) as unpatentable over Dreese, Wurzburg, and Guzaski in view of Banks. *Id.* at 5–6.

ANALYSIS

We agree with Appellants that the Examiner errs in finding that Dreese and/or Wurzburg, individually or in combination, teach, disclose, or suggest a filling containing “non-gelatinized, non-modified native starch or overdry starch,” as recited in claim 1. App. Br. 23 (claim 1); Non-Final Action 3–4; App. Br. 14.

We construe the term, “non-modified,” as referring to starch in its natural form that has not been chemically or physically modified. Our construction is based on the Specification, which discloses that “starch is sometimes modified chemically or physically,” but that such modification produces a product that “is perceived as an additive rather than a natural ingredient.” Spec. 1. Our construction is also based on the Specification’s disclosure that “native starch” is “a non-modified natural product.” *Id.* at 4.

Our construction is also supported by the following dictionary definition provided by Appellants:

Starch, Modified. Starch altered by physical or chemical treatment to give special properties of value in food processing, e.g. change in gel strength, flow properties, colour, clarity, stability of the paste.

Arnold E. Bender, *DICTIONARY OF NUTRITION AND FOOD TECHNOLOGY* 267 (3rd ed. 1968) (reproduced in Reply Br. App. A).

We construe the term, “non-gelatinized,” as referring to starch granules that have not undergone swelling through water absorption nor heating above the gelatinization temperature in the presence of water. Our construction is based on the Specification, which discloses:

Starch gelatinization is a phenomenon well known [to] the man of the art. It is characterized by an important swelling of the starch granules through water absorption, even up to bursting if heating is too intense. . . .

Gelatinization occurs in the presence of water above a certain temperature . . . [which] varies according to the nature of the starch, and the composition of the aqueous food medium.

Spec. 6; *see also* Wurzburg 2:25–26 (“each starch type is known to have its own gelatinization temperature”).

The Examiner finds that Dreese discloses a food composition comprising at least one non-gelatinized native starch. Non-Final Action 3; Ans. 3 and 7. The Examiner’s finding omits the term, “non-modified,” as recited in claim 1. To the extent the Examiner uses the term “native” as synonymous with “non-modified,” the finding is erroneous for the reasons explained by Appellants at page 11, lines 9–14 and page 15, line 1 to page 16, line 3 of the Appeal Brief. We add the following:

Dreese discloses a confectionary creme comprising fragmented granular starch hydrolysate made by sequential acid hydrolysis and

fragmentation of a granular starch. Dreese Abstract, 1:61–64, 2:42–44. The Examiner does not direct us to a disclosure in Dreese of a food composition containing starch that has not been chemically modified. Dreese’s premix, for example, contains granular starch hydrolysate that has undergone acid hydrolysis, which is a chemical modification. *Id.* at Abstract, 2:4–6, 14:51–53, 15:54–61 (Example 1); *see also id.* at 3:41–43, 6:20–31 (describing acid hydrolysis).

The Examiner directs us to Dreese column 3, lines 1 to 3; however, that portion of Dreese discloses native granular starch as a starting material for acid hydrolysis, not as an ingredient of a food composition. *See* Dreese 3:5–10 (“The starch should be in the native granular form to be useful as a starting material. This form is resistant to hydration and/or gelatinization during the acid hydrolysis, and thus, fragments of the starch will retain many of the structural features of the native granule . . .”). The Examiner also directs us to Dreese column 16, lines 20–35, which lists ingredients of a no fat creme filling for snack cake (Example 2). Two commercial starch ingredients are listed, but neither is shown to be a non-modified native starch. *See, e.g., id.* at 1:61–68 (confectionary creme comprises two types of starch, both of which are hydrolysates).

In the Answer, the Examiner acknowledges that Dreese does not disclose native starch particles. Ans. 4. The Examiner seeks to remedy this deficiency with a finding that “Wurzburg teaches that it is desirable to use ‘native starch’ in confectionary product[s] to reduce processing time.” *Id.* (citing Wurzburg 1:50–70); *see also* Non-Final Action 4 (same). The Examiner concludes that it would have been obvious to use native starch particles, as suggested by Wurzburg. Non-Final Action 4; Ans. 4.

The Examiner's findings regarding Wurzburg are insufficient to address the shortcomings in Dreese for the reasons explained by Appellants at page 12, line 15 through page 13, last line and page 16, line 4 to page 17, line 21 of the Appeal Brief. We add the following:

Wurzburg discloses confectionery products prepared from a mixture of sugar and an ungelatinized, essentially native starch. Wurzburg 1:62–64. According to Wurzburg, starch, sugar, and water are mixed and heated in an extruder, so that the starch is gelatinized, and the mixture is extruded to form solid shape-retaining confections. *Id.* 2:39–44 and 2:55–62.

The Examiner errs in finding that Wurzburg teaches to use native starch in confectionary products “to reduce processing time.” Non-Final Action 4; Ans. 4. According to Wurzburg, the disclosed method reduces the time required to make confectionary products, as compared with known methods involving casting an aqueous mixture of sugar and starch into molds. Wurzburg 1:24–54. The time savings results from eliminating processing steps, such as cooking to evaporate water and storing the molded confections to allow gelling and drying, not from using native starch instead of modified starch. *Id.* Indeed, Wurzburg contemplates using non-modified starch, as well as modified starch, in the disclosed confectionary products. *Id.* at 1:61–70 (disclosing that the “essentially native starch” used in the invention includes “any starch which has been modified, as for example by acid hydrolysis, oxidation or other chemical or physical treatment to an extent such that its fluidity value is less than 20”).

The Examiner does not explain sufficiently how or why the teachings of Dreese and Wurzburg would have led a person of ordinary skill in the art to the subject matter of claim 1. Both Dreese and Wurzburg teach the use of

native starch particles as starting materials, and both teach processing the native starch particles in ways that are excluded by claim 1. As discussed above, Dreese teaches acid hydrolysis, Dreese, 2:42—a chemical modification excluded by our construction for “non-modified.” Wurzburg teaches subjecting a starch mixture to sufficient heat to gelatinize the starch, Wurzburg 2:43–44, which falls outside our construction for “non-gelatinized.” The Examiner fails to explain adequately how or why a person of ordinary skill in the art would have combined Wurzburg’s teaching with the cited teachings of Dreese, or how such a combination would have resulted in the subject matter of claim 1.

To the extent the Examiner proposes substituting non-modified, native starch particles for the fragmented, granular starch hydrolysates of Dreese, the Examiner’s proposal lacks sufficient reasoning with rational underpinning. For example, the Examiner fails to show that a person of ordinary skill in the art would have reasonably expected to produce a useful product by eliminating the acid hydrolysis and fragmentation steps that Dreese teaches are important for providing a salve-like or fat-like consistency without a “particulate” or “chalky” mouthfeel. Dreese 3:41–45, 3:53–56, 6:2–17, 10:43–57, 11:59–66, 14:59–66.

In sum, we determine that the Examiner’s rejection fails to adequately account for the requirement for non-gelatinized, non-modified starch, as recited in claim 1, is based on erroneous findings regarding Dreese and Wurzburg, and relies on hindsight reconstruction of the subject matter of the claim.

The deficiencies in the Examiner’s findings and conclusions regarding Dreese and Wurzburg are not remedied by the Examiner’s findings

regarding Guzaski or Banks, neither of which is relied upon as teaching non-gelatinized, non-modified starch. *See* Non-Final Action 4–6.

We therefore determine that a preponderance of the evidence does not support the Examiner’s conclusion of obviousness with respect to independent claim 1 and its dependent claims 3 and 5–25, and we do not sustain the rejection of these claims over Dreese, Wurzburg, Guzaski, and Banks.

The Examiner’s decision is REVERSED.

REVERSED